NASA's FY 2011 and FY 2012 Annual Performance Plans

NASA's 2011 Strategic Plan unveils the Agency's new direction and new strategic goals. NASA has updated its annual performance plans (APPs) to reflect this new direction. In concert with this effort, NASA is transitioning to a new performance framework with a focus on increased transparency and accountability. A brief discussion of the new framework appears below, followed by NASA's FY 2011 and FY 2012 APPs. Due to the change in NASA's performance structure, performance trends for past years mapped to the new performance framework are presented in the following FY 2011 and FY 2012 APPs.

The new performance framework consists of five levels of performance measures. The strategic goals form the top of the framework with four distinct levels supporting the achievement of the overarching goals. Those supporting levels are outcomes, objectives, performance goals, and annual performance goals. Each performance measure level is associated with a specific timeframe.

The strategic goals and outcomes form the top tier of NASA's new performance framework and reflect NASA's long-term plans for the next 10 to 20 years and beyond. These strategic goals may be supported by multiple NASA directorates and offices (see figure 1). In NASA's previous performance framework, Agency-wide activities (formerly represented in Cross-Agency Support) were not previously linked to a specific strategic goal. In NASA's new framework, these activities are now fully incorporated into the goal structure. Strategic goals and outcomes represent the overall direction of the Agency and are the result of intense internal planning and external consultation with the Agency's stakeholders. Reaching out to external stakeholders for their input ensures that NASA has the Nation's goals in mind as the Agency sets its course.

While the strategic goals and outcomes are focused on long-term activities, the objectives, performance goals, and APGs set quantifiable targets for programs, projects, and offices within NASA. Objectives identify targets that span the next 10 years and form the measureable framework for NASA's APPs. These objectives, in turn, are supported by performance goals which focus on planned progress over the next three to five years, with specific annual performance goals (APGs) aligned to the annual budget request.

NASA's former performance framework, consisted of three levels of performance measures: strategic goals (and sub-goals), outcomes, and annual performance goals (APGs). The addition of objectives and performance goals to the new performance framework provides increased transparency into NASA's mid- and near-term plans and performance. (Please see figure 2 for a comparison of NASA's former performance framework to the new performance framework.)

NASA reports progress on each APP to Congress and the public in the Agency's annual Performance and Accountability Report, which supports programmatic decision-making at a government-wide level as well as providing feedback to NASA regarding progress towards its Strategic Goals. NASA's performance framework is also an important tool for communicating with stakeholders and the public. Through this framework, NASA is held accountable for the Nation's investment in NASA's programs and missions, reporting on achievements as well as shortfalls, and informing planning performance for the next year.

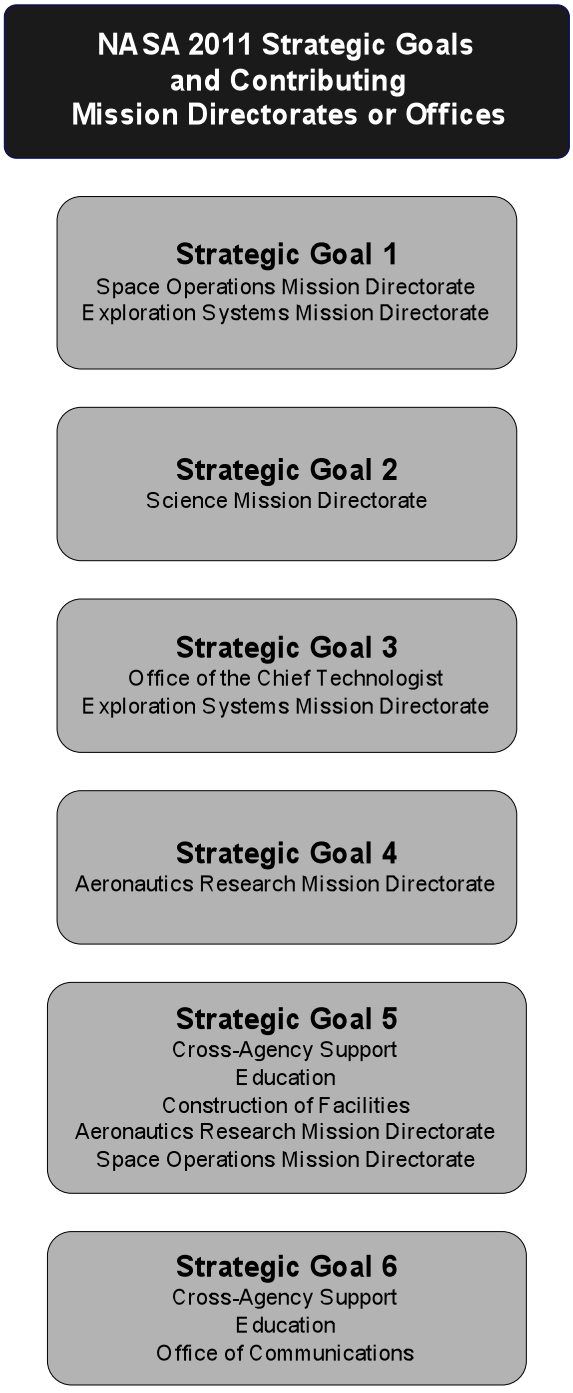

Figure 1: NASA's strategic goals and the Mission Directorates and Mission Support Offices that contribute to each goal.

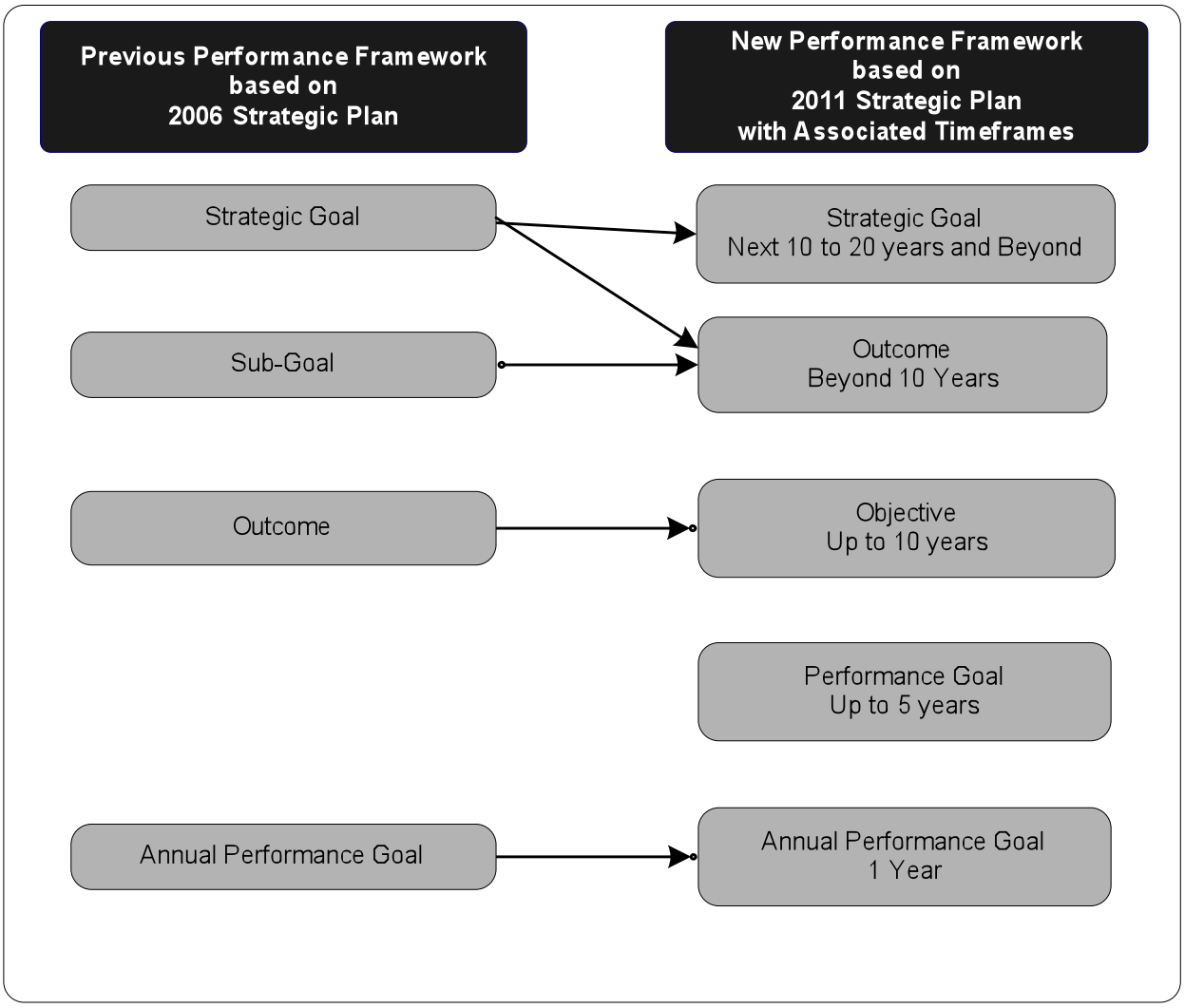

Figure 2: NASA's new performance framework compared to NASA's previous performance framework.

FY 2011 Performance Plan Narrative

The enclosed FY 2011 Performance Plan reflects the current prioritization of Agency programs and projects. In NASA's FY 2011 Budget Estimates, NASA did not include the FY 2011 Performance Plan due to programmatic shifts in direction from the President. NASA chose to align the FY 2011 Performance Plan with the Agency's new 2011 Strategic Plan, hence, the FY 2011 Performance Plan is being presented here for the first time.

The following table provides a summary of all of the Agency commitments identified in the preceding sections of this document.

FY 2011 Performance Plan

Measure #	Description	Contributing Program (s)	Contributing Theme
Strategic Goal 1	**Extend and sustain human activities across the solar system.**		
Outcome 1.1	**Sustain the operation and full use of the International Space Station (ISS) and expand efforts to utilize the ISS as a National Laboratory for scientific, technological, diplomatic, and educational purposes and for supporting future objectives in human space exploration.**		
Objective 1.1.1	**Maintain resources (on orbit and on the ground) to operate and utilize the ISS.**		
Performance Goal 1.1.1.1	***Maintain capability for six on-orbit crew members.***		
APG 1.1.1.1: ISS-11-1	In concert with the International Partners, maintain a continuous crew presence on the ISS by coordinating and managing resources, logistics, systems, and operational procedures.	International Space Station Program	International Space Station
Performance Goal 1.1.1.2	***HPPG: Safely fly out the Space Shuttle manifest and retire the fleet.***		
APG 1.1.1.2: SSP-11-1	Release major Space Shuttle operations facilities at Kennedy Space Center for future institutional and programmatic use.	Space Shuttle Program	Space Shuttle
Performance Goal 1.1.1.3	***Provide cargo and crew transportation to support on-orbit crew members and utilization.***		
APG 1.1.1.3: ISS-11-2	Fly the ISS elements, spares, logistics, and utilization hardware as agreed to by the International Partners in the ISS transportation plan.	International Space Station Program	International Space Station
Performance Goal 1.1.1.4	***Maintain and operate a safe and functional ISS.***		
APG 1.1.1.4: ISS-11-3	Provide 100 percent of planned on-orbit resources (including power, data, crew time, logistics, and accommodations) needed to support research.	International Space Station Program	International Space Station
APG 1.1.1.4: ISS-11-4	Achieve zero Type-A (damage to property at least $1 million or death) or Type-B (damage to property at least $250 thousand or permanent disability or hospitalization of three or more persons) mishaps.	International Space Station Program	International Space Station

FY 2011 Performance Plan

Measure #	Description	Contributing Program (s)	Contributing Theme
Objective 1.1.2	**Advance engineering, technology, and research capabilities on the ISS.**		
Performance Goal 1.1.2.1	***Advance knowledge of long-duration human space flight by establishing agreements with organizations to enable full utilization of the ISS.***		
APG 1.1.2.1: ISS-11-5	Accomplish a minimum of 90 percent of the on-orbit research objectives as established one month prior to a given increment, as sponsored by NASA, baselined for FY 2011.	International Space Station Program	International Space Station
Performance Goal 1.1.2.2	***Conduct basic and applied biological and physical research to advance and sustain U.S. scientific expertise.***		
APG 1.1.2.2: ERD-11-1	Develop at least two life sciences flight payloads for ISS or Free Flyer platforms.	Advanced Explorations Systems	Exploration Research and Development
APG 1.1.2.2: ERD-11-2	Deliver at least five physical sciences payloads for launch to the ISS.	Advanced Explorations Systems	Exploration Research and Development
APG 1.1.2.2: ERD-11-3	Conduct at least five experiments in combustion, fluids, or materials sciences on the ISS.	Advanced Explorations Systems	Exploration Research and Development
Outcome 1.2	**Develop competitive opportunities for the commercial community to provide best value products and services to low Earth orbit and beyond.**		
Objective 1.2.1	**Enable the commercial sector to provide cargo and crew services to the International Space Station (ISS).**		
Performance Goal 1.2.1.1	***Develop competitive opportunities for the commercial community to provide best value products and services to low Earth orbit and beyond.***		
APG 1.2.1.1: CS-11-1	Conduct a minimum of one commercial cargo demonstration flight of new cargo transportation systems.	Commercial Cargo	Commercial Spaceflight
APG 1.2.1.1: CS-11-2	Conduct a minimum of one commercial cargo demonstration flight of proximity operations with ISS.	Commercial Cargo	Commercial Spaceflight
APG 1.2.1.1: CS-11-3	Conduct a minimum of one safe berthing of commercial cargo transportation systems with the ISS.	Commercial Cargo	Commercial Spaceflight
APG 1.2.1.1: CS-11-4	Release announcement for the development of commercial crew transportation systems (CCDev2).	Commercial Crew	Commercial Spaceflight
Performance Goal 1.2.1.2	***Develop and document evaluation and certification processes for an integrated commercial crew transportation system.***		
APG 1.2.1.2: CS-11-5	Develop NASA processes and requirements required to ensure crew safety to and from the ISS and other NASA and low Earth orbit destinations.	Commercial Crew	Commercial Spaceflight

FY 2011 Performance Plan

Measure #	Description	Contributing Program (s)	Contributing Theme
Outcome 1.3	**Develop an integrated architecture and capabilities for safe crewed and cargo missions beyond low Earth orbit.**		
Objective 1.3.1	**Execute development of an integrated architecture to conduct human space exploration missions beyond low Earth orbit.**		
Performance Goal 1.3.1.1	***Complete design reviews for Space Launch System (SLS).***		
APG 1.3.1.1: HEC-11-1	Develop top-level Agency requirements and draft Program Plan for Space Launch System (SLS).	Space Launch System	Human Exploration Capabilities
Performance Goal 1.3.1.2	***Complete design reviews for Multi-Purpose Crew Vehicle (MPCV).***		
APG 1.3.1.2: HEC-11-2	Develop top-level Agency requirements and Program Plan for Multi-Purpose Crew Vehicle (MPCV).	Multi-Purpose Crew Vehicle	Human Exploration Capabilities
Objective 1.3.2	**Develop a robust biomedical research portfolio to mitigate space human health risks.**		
Performance Goal 1.3.2.1	***Develop technologies that enable biomedical research and mitigate space human health risks associated with human space exploration missions.***		
APG 1.3.2.1: ERD-11-4	Develop and release two NASA Research Announcements that solicit from the external biomedical research community the highest quality proposals to mitigate space human health risks.	Human Research	Exploration Research and Development
Performance Goal 1.3.2.2	***Perform research to ensure that future human crews are protected from the deleterious effects of space radiation.***		
APG 1.3.2.2: ERD-11-5	Complete the independent assessment of the updated NASA Space Radiation Cancer Risk Model used to project the cancer risk for current ISS crews and future exploration missions.	Human Research	Exploration Research and Development
Performance Goal 1.3.2.3	***Develop exploration medical capabilities for long-duration space missions.***		
APG 1.3.2.3: ERD-11-6	Develop and begin implementation of a research plan to address a recently discovered risk to crewmembers involving microgravity-induced visual alterations.	Human Research	Exploration Research and Development

FY 2011 Performance Plan

Measure #	Description	Contributing Program (s)	Contributing Theme
Strategic Goal 2	**Expand scientific understanding of the Earth and the universe in which we live.**		
Outcome 2.1	**Advance Earth system science to meet the challenges of climate and environmental change.**		
Objective 2.1.1	**Improve understanding of and improve the predictive capability for changes in the ozone layer, climate forcing, and air quality associated with changes in atmospheric composition.**		
Performance Goal 2.1.1.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.1.1.1: ES-11-1	Demonstrate planned progress in understanding and improving predictive capability for changes in the ozone layer, climate forcing, and air quality associated with changes in atmospheric composition. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Earth Science
Performance Goal 2.1.1.2	***By 2015, launch at least two missions in support of this objective.***		
APG 2.1.1.2: ES-11-2	Complete the Aquarius Launch Readiness Review.	Earth System Science Pathfinder	Earth Science
APG 2.1.1.2: ES-11-3	Initiate the Orbiting Carbon Observatory-2 (OCO-2) Instrument and Spacecraft System-Level Testing.	Earth System Science Pathfinder	Earth Science
APG 2.1.1.2: ES-11-4	Release Earth Venture 2 (EV-2) Announcement of Opportunity.	Earth System Science Pathfinder	Earth Science
Objective 2.1.2	**Enable improved predictive capability for weather and extreme weather events.**		
Performance Goal 2.1.2.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.1.2.1: ES-11-5	Demonstrate planned progress in enabling improved predictive capability for weather and extreme weather events. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Earth Science
Performance Goal 2.1.2.2	***By 2015, launch at least two missions in support of this objective.***		
APG 2.1.2.2: ES-11-6	Complete the Global Precipitation Mission (GPM) Systems Integration Review.	Earth Systematic Missions	Earth Science

FY 2011 Performance Plan

Measure #	Description	Contributing Program (s)	Contributing Theme
Objective 2.1.3	**Quantify, understand, and predict changes in Earth's ecosystems and biogeochemical cycles, including the global carbon cycle, land cover, and biodiversity.**		
Performance Goal 2.1.3.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.1.3.1: ES-11-7	Demonstrate planned progress in quantifying, understanding, and predicting changes in Earth's ecosystems and biogeochemical cycles, including the global carbon cycle, land cover, and biodiversity. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Earth Science
Performance Goal 2.1.3.2	***By 2015, launch at least two missions in support of this objective.***		
APG 2.1.3.2: ES-11-8	Complete the Landsat Data Continuity Mission (LDCM) Mission Operations Review.	Earth Systematic Missions	Earth Science
APG 2.1.3.2: ES-11-3	Initiate the Orbiting Carbon Observatory-2 (OCO-2) Instrument and Spacecraft System-Level Testing.	Earth System Science Pathfinder	Earth Science
Objective 2.1.4	**Quantify the key reservoirs and fluxes in the global water cycle and assess water cycle change and water quality.**		
Performance Goal 2.1.4.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.1.4.1: ES-11-9	Demonstrate planned progress in quantifying the key reservoirs and fluxes in the global water cycle and assessing water cycle change and water quality. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Earth Science
Performance Goal 2.1.4.2	***By 2015, launch at least two missions in support of this objective.***		
APG 2.1.4.2: ES-11-10	Complete the Soil Moisture Active-Passive (SMAP) Confirmation Review.	Earth Systematic Missions	Earth Science
APG 2.1.4.2: ES-11-3	Complete the Aquarius Launch Readiness Review.	Earth System Science Pathfinder	Earth Science
APG 2.1.4.2: ES-11-6	Complete the Global Precipitation Mission (GPM) Systems Integration Review.	Earth Systematic Missions	Earth Science
Objective 2.1.5	**Improve understanding of the roles of the ocean, atmosphere, land and ice in the climate system and improve predictive capability for its future evolution.**		
Performance Goal 2.1.5.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.1.5.1: ES-11-11	Demonstrate planned progress in understanding the roles of ocean, atmosphere, land, and ice in the climate system and improving predictive capability for future evolution. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Earth Science

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Measure #	Description	Contributing Program (s)	Contributing Theme
Performance Goal 2.1.5.2	***HPPG: Study Earth from space to understand climate change, weather, and human impact on our planet by launching at least two missions by 2015.***		
APG 2.1.5.2: ES-11-12	Complete the National Polar-orbiting Operational Environmental Satellite System (NPOESS) Preparatory Project (NPP) Mission Readiness Review.	Earth Systematic Missions	Earth Science
APG 2.1.5.2: ES-11-13	Complete the Glory Launch Readiness Review.	Earth Systematic Missions	Earth Science
Performance Goal 2.1.5.3	***By 2015, launch at least three missions in support of this objective.***		
APG 2.1.5.3: ES-11-14	Complete the ICESat-2 Spacecraft System Requirements Review.	Earth System Science Pathfinder	Earth Science
APG 2.1.5.3: ES-11-3	Initiate the Orbiting Carbon Observatory-2 (OCO-2) Instrument and Spacecraft System-Level Testing.	Earth System Science Pathfinder	Earth Science
Objective 2.1.6	**Characterize the dynamics of Earth's surface and interior and form the scientific basis for the assessment and mitigation of natural hazards and response to rare and extreme events.**		
Performance Goal 2.1.6.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.1.6.1: ES-11-15	Demonstrate planned progress in characterizing the dynamics of Earth's surface and interior and forming the scientific basis for the assessment and mitigation of natural hazards and response to rare and extreme events. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Earth Science
Performance Goal 2.1.6.2	***By 2015, launch at least one mission in support of this objective.***		
APG 2.1.6.2: ES-11-8	Complete the Landsat Data Continuity Mission (LDCM) Mission Operations Review.	Earth Systematic Missions	Earth Science
Objective 2.1.7	**Enable the broad use of Earth system science observations and results in decision-making activities for societal benefits.**		
Performance Goal 2.1.7.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.1.7.1: ES-11-16	Conduct impact analyses of two projects that apply NASA Earth science research to support decision-making activities.	Applied Sciences	Earth Science
APG 2.1.7.1: ES-11-17	Increase the number of science data products delivered to Earth Observing System Data and Information System (EOSDIS) users.	Earth Science Research	Earth Science
APG 2.1.7.1: ES-11-18	Maintain a high level of customer satisfaction, as measured by exceeding the most recently available federal government average rating of the Customer Satisfaction Index.	Earth Science Research	Earth Science

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Measure #	Description	Contributing Program (s)	Contributing Theme
Outcome 2.2	**Understand the Sun and its interactions with Earth and the solar system.**		
Objective 2.2.1	**Improve understanding of the fundamental physical processes of the space environment from the Sun to Earth, to other planets, and beyond to the interstellar medium.**		
Performance Goal 2.2.1.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.2.1.1: HE-11-1	Demonstrate planned progress in understanding the fundamental physical processes of the space environment from the Sun to Earth, to other planets, and beyond to the interstellar medium. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Heliophysics
Performance Goal 2.2.1.2	***By 2015, launch two missions in support of this outcome.***		
APG 2.2.1.2: HE-11-2	Complete the Magnetospheric MultiScale (MMS) Mission Operations Center and Science Operations Center Preliminary Design Review.	Solar Terrestrial Probes	Heliophysics
APG 2.2.1.2: HE-11-3	Complete the Geospace Radiation Belt Storm Probes Systems Integration Review.	Living with a Star	Heliophysics
Objective 2.2.2	**Improve understanding of how human society, technological systems, and the habitability of planets are affected by solar variability interacting with planetary magnetic fields and atmospheres.**		
Performance Goal 2.2.2.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.2.2.1: HE-11-4	Demonstrate planned progress in understanding how human society, technological systems, and the habitability of planets are affected by solar variability interacting with planetary magnetic fields and atmospheres. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Heliophysics
Performance Goal 2.2.2.2	***By 2015, launch two missions in support of this outcome.***		
APG 2.2.2.2: HE-11-2	Complete the Magnetospheric MultiScale (MMS) Mission Operations Center/Science Operations Center Preliminary Design Review.	Solar Terrestrial Probes	Heliophysics
APG 2.2.2.2: HE-11-3	Complete the Geospace Radiation Belt Storm Probes Systems Integration Review.	Living with a Star	Heliophysics

FY 2011 Performance Plan

Measure #	Description	Contributing Program (s)	Contributing Theme
Objective 2.2.3	**Maximize the safety and productivity of human and robotic explorers by developing the capability to predict extreme and dynamic conditions in space.**		
Performance Goal 2.2.3.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.2.3.1: HE-11-5	Demonstrate planned progress in maximizing the safety and productivity of human and robotic explorers by developing the capability to predict the extreme and dynamic conditions in space. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Heliophysics
Performance Goal 2.2.3.2	***By 2017, launch at least two missions in support of this outcome.***		
APG 2.2.3.2: HE-11-3	Complete the Geospace Radiation Belt Storm Probes Systems Integration Review.	Living with a Star	Heliophysics
Outcome 2.3	**Ascertain the content, origin, and evolution of the solar system and the potential for life elsewhere.**		
Objective 2.3.1	**Inventory solar system objects and identify the processes active in and among them.**		
Performance Goal 2.3.1.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.3.1.1: PS-11-1	Demonstrate planned progress in inventorying solar system objects and identifying the processes active in and among them. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Planetary Science
APG 2.3.1.1: PS-11-2	Achieve arrival of Dawn at Vesta.	Discovery	Planetary Science
Performance Goal 2.3.1.2	***By 2015, launch at least two missions in support of this outcome.***		
APG 2.3.1.2: PS-11-3	Complete the mission concept studies for the New Frontiers 3 mission.	New Frontiers	Planetary Science
Objective 2.3.2	**Improve understanding of how the Sun's family of planets, satellites, and minor bodies originated and evolved.**		
Performance Goal 2.3.2.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.3.2.1: PS-11-4	Demonstrate planned progress in understanding how the Sun's family of planets, satellites, and minor bodies originated and evolved. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Planetary Science
APG 2.3.2.1: PS-11-5	Complete the MESSENGER Mercury Orbit Insertion.	Discovery	Planetary Science

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Measure #	Description	Contributing Program (s)	Contributing Theme
Performance Goal 2.3.2.2	***By 2015, launch at least three missions in support of this outcome.***		
APG 2.3.2.2: PS-11-3	Complete the mission concept studies for the New Frontiers 3 mission.	New Frontiers	Planetary Science
APG 2.3.2.2: PS-11-6	Complete the Juno Launch Readiness Review.	New Frontiers	Planetary Science
APG 2.3.2.2: PS-11-7	Complete the Gravity Recovery and Interior Laboratory (GRAIL) Pre-Ship Review.	Discovery	Planetary Science
Objective 2.3.3	**Improve understanding of the processes that determine the history and future of habitability of environments on Mars and other solar system bodies.**		
Performance Goal 2.3.3.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.3.3.1: PS-11-8	Demonstrate planned progress in understanding the processes that determine the history and future of habitability of environments on Mars and other solar system bodies. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Planetary Science
Performance Goal 2.3.3.2	***By 2015, launch at least two missions in support of this outcome.***		
APG 2.3.3.2: PS-11-10	Complete the Mars Atmosphere and Volatile EvolutioN Mission (MAVEN) Confirmation Review.	Mars Exploration	Planetary Science
APG 2.3.3.2: PS-11-9	Complete the Mars Science Laboratory (MSL) Pre-Ship Review.	Mars Exploration	Planetary Science
Objective 2.3.4	**Improve understanding of the origin and evolution of Earth's life and biosphere to determine if there is or ever has been life elsewhere in the universe.**		
Performance Goal 2.3.4.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.3.4.1: PS-11-11	Demonstrate planned progress in understanding the origin and evolution of life on Earth and throughout the biosphere to determine if there is or ever has been life elsewhere in the universe. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Planetary Science

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Measure #	Description	Contributing Program (s)	Contributing Theme
Objective 2.3.5	**Identify and characterize small bodies and the properties of planetary environments that pose a threat to terrestrial life or exploration or provide potentially exploitable resources.**		
Performance Goal 2.3.5.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.3.5.1: PS-11-12	Demonstrate planned progress in identifying and characterizing small bodies and the properties of planetary environments that pose a threat to terrestrial life or exploration or provide potentially exploitable resources. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Planetary Science
Performance Goal 2.3.5.2	***Return data for selection of destinations in order to lower risk for human space exploration beyond low Earth orbit.***		
APG 2.3.5.2: PS-11-13	Develop an archive of high resolution images of the moon from the Lunar Reconnaissance Orbiter (LRO) necessary for human space exploration to determine potential landing sites.	Multiple Programs	Planetary Science
Outcome 2.4	**Discover how the universe works, explore how it began and evolved, and search for Earth-like planets.**		
Objective 2.4.1	**Improve understanding of the origin and destiny of the universe, and the nature of black holes, dark energy, dark matter, and gravity.**		
Performance Goal 2.4.1.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.4.1.1: AS-11-1	Demonstrate planned progress in understanding the origin and destiny of the universe, and the nature of black holes, dark energy, dark matter, and gravity. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Astrophysics
Performance Goal 2.4.1.2	***By 2015, launch at least one mission in support of this outcome.***		
APG 2.4.1.2: AS-11-2	Complete the Nuclear Spectroscopic Telescope Array (NuSTAR) Systems Integration Review.	Astrophysics Explorer	Astrophysics

FY 2011 Performance Plan

Measure #	Description	Contributing Program (s)	Contributing Theme
Objective 2.4.2	**Improve understanding of the many phenomena and processes associated with galaxy, stellar, and planetary system formation and evolution from the earliest epochs to today.**		
Performance Goal 2.4.2.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.4.2.1: AS-11-3	Demonstrate planned progress in understanding the many phenomena and processes associated with galaxy, stellar, and planetary system formation and evolution from the earliest epochs to today. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Astrophysics
Performance Goal 2.4.2.2	***Design and assemble James Webb Space Telescope (JWST).***		
APG 2.4.2.2: JWST-11-1	Complete new James Webb Space Telescope (JWST) mission re-baseline.	James Webb Space Telescope	James Webb Space Telescope
Performance Goal 2.4.2.3	***Develop and operate an airborne infrared astrophysics observatory.***		
APG 2.4.2.3: AS-11-4	Initiate the Stratospheric Observatory for Infrared Astronomy (SOFIA) science observations.	Cosmic Origins	Astrophysics
Objective 2.4.3	**Generate a census of extra-solar planets and measure their properties.**		
Performance Goal 2.4.3.1	***Provide national scientific capabilities through necessary skilled researchers and supporting knowledge base.***		
APG 2.4.3.1: AS-11-5	Demonstrate planned progress in generating a census of extra-solar planets and measuring their properties. Progress relative to the objectives in NASA's 2010 Science Plan will be evaluated by external expert review.	Multiple Programs	Astrophysics

FY 2011 Performance Plan

Measure #	Description	Contributing Program (s)	Contributing Theme
Strategic Goal 3	**Create the innovative new space technologies for our exploration, science, and economic future.**		
Outcome 3.1	**Sponsor early-stage innovation in space technologies in order to improve the future capabilities of NASA, other government agencies, and the aerospace industry.**		
Objective 3.1.1	**Create a pipeline of new low Technology Readiness Levels (TRL) innovative concepts and technologies for future NASA missions and national needs.**		
Performance Goal 3.1.1.1	***Explore revolutionary aerospace concepts, with an initial research phase for preliminary assessment of a broad range of ideas, and a second phase for further development of the most promising concepts.***		
APG 3.1.1.1: ST-11-1	Initiate 10 Phase I research efforts to explore revolutionary aerospace ideas.	Crosscutting Space Technology Development	Space Technology
Performance Goal 3.1.1.2	***Provide cash prize incentives to non-traditional sources for innovations of interest and value to NASA and the Nation.***		
APG 3.1.1.2: ST-11-2	Conduct at least two Centennial Challenge competitions.	Crosscutting Space Technology Development	Space Technology
Performance Goal 3.1.1.3	***Establish and maintain a culture of innovation at each of the 10 NASA Centers through the development of new Center ideas and technologies.***		
APG 3.1.1.3: ST-11-3	Twenty innovative projects will be initiated across the NASA Centers.	Crosscutting Space Technology Development	Space Technology
Performance Goal 3.1.1.4	***Increase the proportion of Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) technologies successfully infused into NASA programs/projects.***		
APG 3.1.1.4: ST-11-4	At least 24 percent of the Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) Phase II technology projects awarded between 2006-2010 will be infused into NASA programs and projects.	SBIR and STTR	Space Technology
Performance Goal 3.1.1.5	***Increase the Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) Phase III contracts initiated or expanded.***		
APG 3.1.1.5: ST-11-5	At least 40 of the Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) technologies will be advanced to Phase III (received non-SBIR/STTR funding).	SBIR and STTR	Space Technology

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Measure #	Description	Contributing Program (s)	Contributing Theme
Performance Goal 3.1.1.6	***Accelerate the development of push technologies to support the future space, science and exploration needs of NASA, other government agencies, and the commercial space sector.***		
APG 3.1.1.6: ST-11-6	Select 100 NASA space technology research activities.	Crosscutting Space Technology Development	Space Technology
Outcome 3.2	**Infuse game changing and crosscutting technologies throughout the Nation's space enterprise to transform the Nation's space mission capabilities.**		
Objective 3.2.1	**Prove the technical feasibility of potentially disruptive new space technologies for future missions.**		
Performance Goal 3.2.1.1	***Transition developed game changing technologies to the technology demonstration programs or directly to Mission Directorates for mission insertion.***		
APG 3.2.1.1: ST-11-7	Initiate 10 conceptual studies to define potential game changing development projects.	Crosscutting Space Technology Development	Space Technology
Objective 3.2.2	**Spur the development of routine, low-cost access to space through small payloads and satellites.**		
Performance Goal 3.2.2.1	***Mature technologies that enable small satellites to provide game changing capabilities for the government and commercial space sectors.***		
APG 3.2.2.1: ST-11-8	Initiate development of at least one new technology with game changing potential for small satellites.	Crosscutting Space Technology Development	Space Technology
Objective 3.2.3	**Demonstrate new space technologies and infuse them into future science and exploration small satellite missions and/or commercial use.**		
Performance Goal 3.2.3.1	***Demonstrate small satellite capabilities with game changing and crosscutting potential for the government and commercial space sectors.***		
APG 3.2.3.1: ST-11-9	Initiate at least one new small satellite mission that will demonstrate game changing or crosscutting technologies in space.	Crosscutting Space Technology Development	Space Technology
Objective 3.2.4	**Demonstrate new space technologies and infuse them into missions.**		
Performance Goal 3.2.4.1	***Infuse game changing and crosscutting technologies into future NASA missions through flight or relevant environment demonstrations.***		
APG 3.2.4.1: ST-11-10	Select two candidate system level technologies that will provide new capabilities for future missions.	Crosscutting Space Technology Development	Space Technology

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Measure #	Description	Contributing Program (s)	Contributing Theme
Objective 3.2.5	**Provide flight opportunities and relevant environments to demonstrate new space technologies.**		
Performance Goal 3.2.5.1	***Perform sub-orbital, simulated zero-gravity and other space analog flight opportunities to develop and demonstrate emerging ideas and technologies.***		
APG 3.2.5.1: ST-11-11	Select and fly technology payloads from NASA, other government agencies, industry, and academia using flight services procured from at least three commercial reusable suborbital and parabolic platform providers.	Crosscutting Space Technology Development	Space Technology
Outcome 3.3	**Develop and demonstrate the critical technologies that will make NASA's exploration, science, and discovery missions more affordable and more capable.**		
Objective 3.3.1	**Demonstrate in-space operations of robotic assistants working with crew.**		
Performance Goal 3.3.1.1	***Demonstrate robotic technologies that support in-space operations, scientific discovery, and work as assistants with the crew.***		
APG 3.3.1.1: ERD-11-7	Launch Robonaut 2 to the ISS and demonstrate teleoperation from the ground.	Exploration Technology Development	Space Technology
Objective 3.3.2	**Develop and demonstrate critical technologies for safe and affordable cargo and human space exploration missions beyond low Earth orbit.**		
Performance Goal 3.3.2.1	***Develop advanced spacesuits to improve the ability of astronauts to conduct Extra-Vehicular Activity (EVA) operations in space including assembly and service of in-space systems and exploration of surfaces of the Moon, Mars, near-Earth objects (NEOs), and other small bodies.***		
APG 3.3.2.1: ERD-11-8	Test breadboard Extra-Vehicular Activity (EVA) Portable Life Support System (PLSS) technologies to enable advanced spacesuits for human deep space exploration.	Advanced Explorations Systems	Exploration Research and Development
Performance Goal 3.3.2.2	***Develop technologies and mission concepts for demonstrating in-space cryogenic propellant storage and transfer making exploration and science missions more affordable and capable.***		
APG 3.3.2.1: ST-11-12	Develop and test Liquid Acquisition Devices (LADs) and mass-gauging to support future Cryogenic Propellant Storage And Transfer (CRYOSTAT) missions.	Exploration Technology Development	Space Technology

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Measure #	Description	Contributing Program (s)	Contributing Theme
Outcome 3.4	**Facilitate the transfer of NASA technology and engage in partnerships with other government agencies, industry, and international entities to generate U.S. commercial activity and other public benefits.**		
Objective 3.4.1	**Promote and develop innovative technology partnerships among NASA, U.S. industry, and other sectors for the benefit of Agency programs and national interests.**		
Performance Goal 3.4.1.1	***Establish 12 technology-related significant partnerships that create value for programs and projects. Track both quantitative dollar value and qualitative benefits to NASA (e.g., reduced volume or mass, improved safety) per year.***		
APG 3.4.1.1: ST-11-13	Establish at least 12 technology-related significant partnerships during FY 2011.	Partnership Development and Strategic Integration	Space Technology
Performance Goal 3.4.1.2	***Complete 30 technology transfer agreements with the commercial and academic community through such mechanisms as licenses, software use agreements, facility use agreements, and Space Act Agreements per year.***		
APG 3.4.1.2: ST-11-14	Complete at least 30 technology transfer agreements during FY 2011.	Partnership Development and Strategic Integration	Space Technology
Performance Goal 3.4.1.3	***Successful application of Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) technologies into commercial products or services.***		
APG 3.4.1.3: ST-11-15	Greater than 35 percent of the Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) Phase II technology projects awarded between 2006-2010 will be transferred into commercial products or services.	SBIR and STTR	Space Technology
Performance Goal 3.4.1.4	***Document 40-50 of the most notable examples of successful transfer and commercialization of NASA-derived technology per year and publish in Spinoff annually.***		
APG 3.4.1.4: ST-11-16	Document at least 40 notable technology transfer successes in NASA's Spinoff publication.	Partnership Development and Strategic Integration	Space Technology

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Measure #	Description	Contributing Program (s)	Contributing Theme
Performance Goal 3.4.1.5	***Document, coordinate, and prioritize Agency-level technology strategic investments to ensure NASA has a balanced portfolio of both near-term NASA mission (pull) technologies and longer-term transformational (push) technologies that benefit both Agency programs and national needs.***		
APG 3.4.1.5: ST-11-17	Develop an Agency technology portfolio database to track technology investments and create space technology roadmaps that prioritize these investments.	Partnership Development and Strategic Integration	Space Technology
Strategic Goal 4	**Advance aeronautics research for societal benefit.**		
Outcome 4.1	**Develop innovative solutions and advanced technologies through a balanced research portfolio to improve current and future air transportation.**		
Objective 4.1.1	**Develop advanced technologies to improve the overall safety of the future air transportation system.**		
Performance Goal 4.1.1.1	***Transfer knowledge to the aviation community to better manage safety in aviation.***		
APG 4.1.1.1: AR-11-1	Demonstrate scalable anomaly detection on heterogeneous data.	Aviation Safety	Aeronautics
APG 4.1.1.1: AR-11-2	Demonstrate self-healing material concepts to mitigate damage in structural elements.	Aviation Safety	Aeronautics
Objective 4.1.2	**Develop innovative solutions and technologies to meet future capacity and mobility requirements of the Next Generation Air Transportation System (NextGen).**		
Performance Goal 4.1.2.1	***HPPG: Increase efficiency and throughput of aircraft operations during arrival phase of flight.***		
APG 4.1.2.1: AR-11-3	Conduct simulations of initial tactical conflict prediction and resolution advisory functions to address reduction in false alerts and increase in time to detect a loss of separation in terminal operations.	Airspace Systems	Aeronautics
APG 4.1.2.1: AR-11-4	Specify operational requirements for performing Multi-Sector Planning (MSP) functions in the mid-term, including technical and conceptual requirements, with consideration of how requirements might change as the National Airspace System (NAS) evolves towards NextGen.	Airspace Systems	Aeronautics
APG 4.1.2.1: AR-11-5	Report on human-in-the-loop (HITL) simulation and model results. (HPPG milestone)	Airspace Systems	Aeronautics

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Measure #	Description	Contributing Program (s)	Contributing Theme
Objective 4.1.3	**Develop tools, technologies, and knowledge that enable significantly improved performance and new capabilities for future air vehicles.**		
Performance Goal 4.1.3.1	***Deliver tools, technologies, and knowledge that can be used to more efficiently and effectively design future air vehicles and their components that overcome national performance and capability challenges.***		
APG 4.1.3.1: AR-11-6	Achieve validated accuracy for conventional and unconventional aircraft, respectively, for nitrogen dioxide (NOx), takeoff and landing performance, cruise performance, take-off gross weight (TOGW), and noise.	Fundamental Aeronautics	Aeronautics
APG 4.1.3.1: AR-11-7	Demonstrate the ability to predict the effect of impact dynamics on a full-scale airframe within 10 percent of measured acceleration.	Fundamental Aeronautics	Aeronautics
APG 4.1.3.1: AR-11-8	Demonstrate the ability to optimize a baseline aircraft design to simultaneously achieve high cruise efficiency and low sonic boom using Multidisciplinary Design, Analysis and Optimization (MDAO) with a two-week cycle time.	Fundamental Aeronautics	Aeronautics
APG 4.1.3.1: AR-11-9	Validate NASA propulsion Computational Fluid Dynamics (CFD) codes using Hypersonic International Flight Research Experimentation (HIFiRE) scramjet flight data and ground-based test results.	Fundamental Aeronautics	Aeronautics
Outcome 4.2	**Conduct systems-level research on innovative and promising aeronautics concepts and technologies to demonstrate integrated capabilities and benefits in a relevant flight and/or ground environment.**		
Objective 4.2.1	**Develop advanced tools and technologies that reduce the technical risk associated with system-level integration of promising aeronautical concepts.**		
Performance Goal 4.2.1.1	***Reduce technical risk by conducting research at an integrated system-level on promising aeronautical concepts and technologies in a relevant environment.***		
APG 4.2.1.1: AR-11-10	Optimize fuel injector designs through flametube and/or sector tests and demonstrate their performance in meeting futuristic aircraft emission goals.	Integrated Systems Research	Aeronautics

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Measure #	Description	Contributing Program (s)	Contributing Theme
Strategic Goal 5	**Enable program and institutional capabilities to conduct NASA's aeronautics and space activities.**		
Outcome 5.1	**Identify, cultivate, and sustain a diverse workforce and inclusive work environment that is needed to conduct NASA missions.**		
Objective 5.1.1	**Establish and maintain a workforce that possesses state-of-the-art technical and business management competencies.**		
Performance Goal 5.1.1.1	***Define and build the federal workforce skills and competencies needed for the Agency's future directions in technology development and deep space exploration.***		
APG 5.1.1.1: AMO-11-1	Seventy-five percent or more of Shuttle workforce has been realigned for new Agency needs.	Agency Management	Agency Management and Operations
APG 5.1.1.1: AMO-11-2	Twenty percent or more of annual recruitments will be through the early career hiring initiatives.	Agency Management	Agency Management and Operations
Performance Goal 5.1.1.2	***Build skills across all levels of the workforce through Leadership Development Opportunities.***		
APG 5.1.1.2: AMO-11-3	Evaluate current state of Agency leadership training and development and publish findings and recommendations in a comprehensive report to guide future program direction.	Agency Management	Agency Management and Operations
APG 5.1.1.2: AMO-11-4	Seventy-five percent of the Agency's leadership training and development programs include "leading through transformation" content.	Agency Management	Agency Management and Operations
Performance Goal 5.1.1.3	***Achieve and sustain an effective labor-management dialogue.***		
APG 5.1.1.3: AMO-11-5	Identify and address at least three significant labor-management challenges identified during the year during periodic Agency-led Labor Management Forums.	Agency Management	Agency Management and Operations
Performance Goal 5.1.1.4	***Adopt and respond to innovative employee feedback mechanisms.***		
APG 5.1.1.4: AMO-11-6	Identify and address at least two topics that employees identified in the latest Federal Employee Viewpoint Survey.	Agency Management	Agency Management and Operations
Performance Goal 5.1.1.5	***Establish and maintain a workplace environment free of illegal discrimination, harassing conduct, and retaliation for Equal Employment Opportunity (EEO) activity and that provides reasonable accommodations to individuals with disabilities.***		
APG 5.1.1.5: AMO-11-7	Complete FY 2011 actions described in the NASA Model Equal Employment Opportunity (EEO) Agency Plan.	Agency Management	Agency Management and Operations

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Measure #	Description	Contributing Program (s)	Contributing Theme
Performance Goal 5.1.1.6	***Implement an Agency-wide Diversity and Inclusion Framework to develop a more demographically diverse workforce and a more inclusive work environment.***		
APG 5.1.1.6: AMO-11-8	Establish a baseline for diversity by developing and implementing an Agency-wide diversity-inclusion survey.	Agency Management	Agency Management and Operations
Objective 5.1.2	**Provide opportunities and support systems that recruit, retain, and develop undergraduate and graduate students in STEM-related disciplines.**		
Performance Goal 5.1.2.1	***Assure that student participants in NASA higher education projects are representative of the diversity of the Nation.***		
APG 5.1.2.1: ED-11-1	Achieve 40 percent participation of underserved and underrepresented (in race and/or ethnicity) in NASA higher education projects.	STEM Education and Accountability	Education
APG 5.1.2.1: ED-11-2	Achieve 45 percent participation of women in NASA higher education projects.	STEM Education and Accountability	Education
Outcome 5.2	**Ensure vital assets are ready, available, and appropriately sized to conduct NASA's missions.**		
Objective 5.2.1	**Achieve mission success by factoring safety, quality, risk, reliability, and maintainability as integral features of programs, projects, technologies, operations, and facilities.**		
Performance Goal 5.2.1.1	***Through 2015, assure zero fatalities or permanent disabling injuries to the public.***		
APG 5.2.1.1: AMO-11-9	Assure zero fatalities or permanent disabling injuries to the public resulting from NASA activities during the fiscal year.	Safety and Mission Success	Agency Management and Operations
Performance Goal 5.2.1.2	***By 2015, achieve a four percent reduction in the total case rate and lost time rate for the NASA civil service work force.***		
APG 5.2.1.2: AMO-11-10	Reduce Total Case Rate and Lost Time Case Rate by one percent, in accordance with the President's Protecting Our Workers and Ensuring Reemployment (POWER) initiative.	Safety and Mission Success	Agency Management and Operations
Performance Goal 5.2.1.3	***By 2015, reduce damage to NASA assets by eight percent from the 2010 baseline.***		
APG 5.2.1.3: AMO-11-11	Reduce damage to NASA assets by two percent per fiscal year, based on a five-year running average.	Safety and Mission Success	Agency Management and Operations

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Measure #	Description	Contributing Program (s)	Contributing Theme
Objective 5.2.2	**Provide information technology that advances NASA space and research program results and promotes open dissemination through efficient, innovative, reliable, and responsive services that are appropriately secure and valued by stakeholders and the public.**		
Performance Goal 5.2.2.1	***By 2014, consolidate and centralize the management of information technology (IT) enterprise services for end user services, communications, enterprise applications, enterprise data centers, and web services.***		
APG 5.2.2.1: AMO-11-12	Achieve Initial Operating Capability (IOC) for five Service Offices (Web Services, Communications, Enterprise Service Desk, End User Services, and NASA Enterprise Applications) as part of the NASA Information Technology Infrastructure Integration Program (I3P).	Agency IT Services (AITS)	Agency Management and Operations
Performance Goal 5.2.2.2	***By 2015, implement a capability to identify and prevent unauthorized intrusions on the NASA institutional and mission networks.***		
APG 5.2.2.2: AMO-11-13	Implement intrusion detection sensors monitored by the NASA Security Operations Center (SOC) on 75 percent of NASA institutional network monitoring sites.	Agency IT Services (AITS)	Agency Management and Operations
Performance Goal 5.2.2.3	***By 2014, decommission the Agency Administrative mainframe computer.***		
APG 5.2.2.3: AMO-11-14	Implement, in the SAP environment, the replacement for the mainframe-based NASA Supply Management System.	Agency IT Services (AITS)	Agency Management and Operations
Performance Goal 5.2.2.4	***By 2015, reduce data center energy consumption by 30 percent.***		
APG 5.2.2.4: AMO-11-15	Develop a data center consolidation plan for NASA that includes an enterprise assessment of NASA's data center footprint.	Agency IT Services (AITS)	Agency Management and Operations
Performance Goal 5.2.2.5	***By 2015, establish at least four innovation laboratories that provide more effective, efficient, and responsive information technology (IT) across NASA in support of the Agency's Mission.***		
APG 5.2.2.5: AMO-11-16	Implement a Core Information Technology (IT) Innovation Laboratory infrastructure to support experimental technology incubation activities in areas ranging from communications, information dissemination, and collaboration application interoperability in a cloud environment.	Agency IT Services (AITS)	Agency Management and Operations

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Measure #	Description	Contributing Program (s)	Contributing Theme
Objective 5.2.3	**Develop and implement long-range infrastructure plans that address institutional capabilities and critical assets, directly link to mission needs, ensure the leveraging of external capabilities, and provide a framework for Agency infrastructure decision-making.**		
Performance Goal 5.2.3.1	***Consolidate functions and offices to reduce real property need, and use Agency Integrated Master Plan to identify and dispose of excess and aged facilities beyond useful life.***		
APG 5.2.3.1 AMO-11-17	Finalize 8 of 10 Center Master Plans and incorporate into the Agency Integrated Master Plan.	Agency Management	Agency Management and Operations
APG 5.2.3.1: COF-11-1	Initiate facilities demolition process for five significant Agency facilities.	Institutional CoF	Construction of Facilities
Performance Goal 5.2.3.2	***HPPG: Conserve valuable natural resources by reducing NASA's energy and water use.***		
APG 5.2.3.2: ECR-11-1	Reduce energy intensity use annually by three percent from an FY 2003 baseline.	Environmental Compliance and Restoration	Environmental Compliance and Restoration
APG 5.2.3.2: ECR-11-2	Reduce potable water use annually by two percent from an FY 2007 baseline.	Environmental Compliance and Restoration	Environmental Compliance and Restoration
APG 5.2.3.2: ECR-11-3	Reduce fleet vehicle energy use annually by two percent of petroleum products from an FY 2005 baseline.	Environmental Compliance and Restoration	Environmental Compliance and Restoration
Outcome 5.3	**Ensure the availability to the Nation of NASA-owned, strategically important test capabilities.**		
Objective 5.3.1	**Work with the National Rocket Propulsion Test Alliance to identify NASA, Department of Defense and commercial capabilities and requirements.**		
Performance Goal 5.3.1.1	***Develop and execute the Rocket Propulsion Test (RPT) Master Plan.***		
APG 5.3.1.1: SFS-11-1	Release the Rocket Propulsion Test (RPT) Master Plan.	Rocket Propulsion Test	Space and Flight Support (SFS)
Objective 5.3.2	**Ensure that Aeronautics Test Program (ATP) facilities are available and capable of supporting research, development, test and engineering goals and objectives for NASA and national aerospace programs.**		
Performance Goal 5.3.2.1	***Ensure that testing capabilities are available in order to support the research, development, test, and engineering milestones of NASA and Department of Defense (DoD) programs.***		
APG 5.3.2.1: AR-11-11	Achieve ratings greater than 86 percent for overall quality and timeliness of Aeronautics Test Program (ATP) facility operations.	Aeronautics Test	Aeronautics

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Measure #	Description	Contributing Program (s)	Contributing Theme
Outcome 5.4	**Implement and provide space communications and launch capabilities responsive to existing and future science and space exploration missions.**		
Objective 5.4.1	**Ensure reliable and cost-effective access to space for missions critical to achieving the National Space Policy of the United States of America.**		
Performance Goal 5.4.1.1	***Complete Launch Services Program (LSP) objectives for all NASA-managed expendable launches.***		
APG 5.4.1.1: SFS-11-2	Sustain 100 percent success rate with the successful launch of NASA-managed expendable launches as identified on the Launch Services Flight Planning Board manifest.	Launch Services	Space and Flight Support (SFS)
Performance Goal 5.4.1.2	***Continue utilizing existing contract mechanisms and agreements with emerging launch vehicle providers to gain information for future Launch Service orders and to provide technical exchanges to enhance early launch success.***		
APG 5.4.1.2: SFS-11-3	Develop processes for crew transportation partner information sharing between NASA's Launch Services Program (LSP), Exploration Systems Mission Directorate (ESMD), ISS, and other government customers, including but not limited to Department of Defense (DoD).	Launch Services	Space and Flight Support (SFS)
Objective 5.4.2	**Transform the Florida launch and range complex to provide a robust launch and range infrastructure for future users.**		
Performance Goal 5.4.2.1	***By FY 2014, enable future government and commercial launching and testing from the Florida launch and range complex.***		
APG 5.4.2.1: SFS-11-4	Develop a 21st Century Space Launch Complex (21st CSLC) plan.	21st Century Space Launch Complex	Space and Flight Support (SFS)
Objective 5.4.3	**Build and maintain a scalable, integrated, mission support infrastructure that can readily evolve to accommodate new and changing technologies, while providing integrated, comprehensive, robust, and cost-effective space communications services at order-of-magnitude higher data rates to enable NASA's science and exploration missions.**		
Performance Goal 5.4.3.1	***By 2014, launch two functionally identical Tracking and Data Relay Satellite (TDRS) spacecraft in geosynchronous orbits to replenish the Tracking and Data Relay Satellite System (TDRSS) constellation.***		
APG 5.4.3.1: SFS-11-5	Complete Tracking and Data Relay Satellite (TDRS) K Payload and Bus Integration and test.	Space Communications and Navigation	Space and Flight Support (SFS)

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Measure #	Description	Contributing Program (s)	Contributing Theme
Performance Goal 5.4.3.2	***By FY 2016, replace or upgrade obsolete and unsustainable systems of the Tracking and Data Relay Satellite System (TDRSS) Ground Segment at the White Sands Complex (WSC).***		
APG 5.4.3.2: SFS-11-6	Complete the Space Network Ground Support Sustainment (SGSS) Integrated Baseline Review (IBR) and Systems Requirements Review (SRR).	Space Communications and Navigation	Space and Flight Support (SFS)
Performance Goal 5.4.3.3	***By FY 2018, replace aging and obsolete Deep Space Network (DSN) 70-meter antenna at Canberra Deep Space Communications Complex (CDSCC).***		
APG 5.4.3.3: SFS-11-7	Complete Deep Space Station-35 (DSS-35) Pedestal Excavation and Azimuth track at Canberra Deep Space Communications Complex (CDSCC).	Space Communications and Navigation	Space and Flight Support (SFS)
Outcome 5.5	**Establish partnerships, including innovative arrangements, with commercial, international, and other government entities to maximize mission success.**		
Objective 5.5.1	**Facilitate the use of the ISS as a National Laboratory for cooperative research, technology development, and education.**		
Performance Goal 5.5.1.1	***HPPG: Establish an independent non-profit (NPO) organization to enhance the utilization of the ISS as a National Laboratory.***		
APG 5.5.1.1: ISS-11-6	Transition management of the ISS U.S. National Laboratory for non-NASA research to the non-profit organization (NPO).	International Space Station Program	International Space Station
Objective 5.5.2	**Enhance international and interagency partnerships through increased use of international and interagency coordination mechanisms.**		
Performance Goal 5.5.2.1	***Actively engage and provide leadership in international and interagency forums.***		
APG 5.5.2.1: AMO-11-18	Complete the International Space Exploration Coordination Group (ISECG) roadmap to identify common interests among international space agencies in human and robotic exploration of the solar system.	Agency Management	Agency Management and Operations

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Measure #	Description	Contributing Program (s)	Contributing Theme
Strategic Goal 6	**Share NASA with the public, educators, and students to provide opportunities to participate in our Mission, foster innovation and contribute to a strong national economy.**		
Outcome 6.1	**Improve retention of students in STEM disciplines by providing opportunities and activities along the full length of the education pipeline.**		
Objective 6.1.1	**Provide quality STEM curricular support resources and materials.**		
Performance Goal 6.1.1.1	***Provide educators nationwide with knowledge and tools with which to inspire students in STEM fields.***		
APG 6.1.1.1: ED-11-3	75,000 educators participate in NASA education programs.	STEM Education and Accountability	Education
Objective 6.1.2	**Provide NASA experiences that inspire student interest and achievement in STEM disciplines.**		
Performance Goal 6.1.2.1	***Provide higher education students with authentic NASA mission-based opportunities that build knowledge and skills needed for STEM careers.***		
APG 6.1.2.1: ED-11-4	25,000 undergraduate and graduate students participate in NASA education opportunities.	STEM Education and Accountability	Education
Performance Goal 6.1.2.2	***Provide elementary and secondary students with authentic NASA mission-based opportunities that build STEM knowledge, skills, and career awareness.***		
APG 6.1.2.2: ED-11-5	600,000 elementary and secondary students participate in NASA instructional and enrichment activities.	STEM Education and Accountability	Education
APG 6.1.2.2: ED-11-6	75 percent of elementary and secondary students express interest in STEM careers following their involvement in NASA education programs.	STEM Education and Accountability	Education
Objective 6.1.3	**Assess grant recipient institutions throughout the education pipeline to ensure that grant recipients demonstrate a consistent commitment to civil rights compliance.**		
Performance Goal 6.1.3.1	***Promote equal opportunity compliance and encourage promising practices among NASA grant recipient institutions through a fully-realized program of civil rights compliance reviews, policy guidance, and technical assistance.***		
APG 6.1.3.1: AMO-11-19	Equal opportunity (EO) assessment and technical assistance provided, or onsite compliance assessment performed, on-location at five STEM or STEM-related programs that receive NASA funding.	Agency Management	Agency Management and Operations

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Measure #	Description	Contributing Program (s)	Contributing Theme
Outcome 6.2	**Promote STEM literacy through strategic partnerships with formal and informal organizations.**		
Objective 6.2.1	**Develop NASA's leadership role in national STEM improvement efforts, as demonstrated by provision of meaningful educator professional development and student experiences, adoption of education technologies, and contributions to STEM education policies and strategies.**		
Performance Goal 6.2.1.1	***Provide educator professional development experiences and materials that align to needs and opportunities identified by districts, states, Department of Education, professional organizations, and other stakeholders.***		
APG 6.2.1.1: ED-11-7	5,000 educators use NASA resources in their curricula after participating in NASA professional development.	STEM Education and Accountability	Education
Performance Goal 6.2.1.2	***Provide expertise in the development of STEM education policies and strategies.***		
APG 6.2.1.2: ED-11-8	Provide expertise to support the National Academies development of a framework for integrated science and engineering standards.	STEM Education and Accountability	Education
Outcome 6.3	**Engage the public in NASA's missions by providing new pathways for participation.**		
Objective 6.3.1	**Extend the reach of participatory engagement across NASA.**		
Performance Goal 6.3.1.1	***By 2015, establish an Agency-wide portfolio of participatory engagement opportunities.***		
APG 6.3.1.1: AMO-11-20	Identify candidate mechanisms to encourage public engagement in NASA programs and missions.	Agency Management	Agency Management and Operations
Outcome 6.4	**Inform, engage, and inspire the public by sharing NASA's missions, challenges, and results.**		
Objective 6.4.1	**Use strategic partnerships with formal and informal educational organizations to provide NASA content to promote interest in STEM.**		
Performance Goal 6.4.1.1	***Leverage communities of practice to facilitate sharing of NASA successes and challenges with the public.***		
APG 6.4.1.1: ED-11-9	420 museums and science centers across the country actively engage the public in major NASA events.	STEM Education and Accountability	Education

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Measure #	Description	Contributing Program (s)	Contributing Theme
Objective 6.4.2	**Provide clear, accurate, timely, and consistent information that is readily available and suitable for a diverse audience.**		
Performance Goal 6.4.2.1	***Use current and emerging communications technologies to reach increasingly broad audiences.***		
APG 6.4.2.1: AMO-11-21	Establish an Agency-wide portfolio of communication tools.	Agency Management	Agency Management and Operations
Objective 6.4.3	**Provide the communications infrastructure to enable NASA's commitment to make government more open, transparent, and participatory.**		
Performance Goal 6.4.3.1	***Make available Agency records through the Freedom of Information (FOIA), Privacy Act, and Open Government Initiative in accordance with federal laws and regulations.***		
APG 6.4.3.1: AMO-11-22	Issue Agency-wide Freedom of Information Act (FOIA) tools to support consistent responses to requesters.	Agency Management	Agency Management and Operations

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Uniform and Efficiency Measures

Measure #	Description
International Space Station Theme	
APG EFF 1.1.1.4: ISS-11-3	Provide 100 percent of planned on-orbit resources (including power, data, crew time, logistics, and accommodations) needed to support research.
APG EFF 1.1.2.1: ISS-11-5	Accomplish a minimum of 90 percent of the on-orbit research objectives as established one month prior to a given increment, as sponsored by NASA, baselined for FY 2011.
Earth Science Theme	
APG EFF 2.1.7.1: ES-11-17	Increase the number of science data products delivered to Earth Observing System Data and Information System (EOSDIS) users.
APG EFF 2.1.7.1: ES-11-18	Maintain a high level of customer satisfaction, as measured by exceeding the most recently available federal government average rating of the Customer Satisfaction Index.
APG EFF: ES-11-19	Complete all development projects within 110 percent of the cost and schedule baseline.
APG EFF: ES-11-20	Deliver at least 90 percent of scheduled operating hours for all operations and research facilities.
APG EFF: ES-11-21	Peer-review and competitively award at least 90 percent, by budget, of research projects.
APG EFF: ES-11-22	Reduce time within which 80 percent of NASA Research Announcement (NRA) grants are awarded, from proposal due date to selection, by four percent per year, with a goal of 180 days.
Agency Management and Operations Theme	
APG EFF 5.2.1.2: AMO-11-10	Reduce Total Case Rate and Lost Time Case Rate by one percent, in accordance with the President's Protecting Our Workers and Ensuring Reemployment (POWER) initiative.
APG EFF 5.2.1.3: AMO-11-11	Reduce damage to NASA assets by two percent per fiscal year, based on a five-year running average.
APG EFF: AMO-11-21	Maintain system execution time during the year-end close process at FY 2010 baseline.
Environmental Compliance and Restoration Theme	
APG EFF 5.2.3.2: ECR-11-1	Reduce energy intensity use annually by three percent from an FY 2003 baseline.
APG EFF 5.2.3.2: ECR-11-2	Reduce potable water use annually by two percent from an FY 2007 baseline.
APG EFF 5.2.3.2: ECR-11-3	Reduce fleet vehicle energy use annually by two percent of petroleum products from an FY 2005 baseline.
Aeronautics Theme	
APG EFF: AR-11-12	Deliver at least 86 percent of on-time availability for operations and research facilities.
Astrophysics Theme	
APG EFF: AS-11-6	Complete all development projects within 110 percent of the cost and schedule baseline.
APG EFF: AS-11-7	Deliver at least 90 percent of scheduled operating hours for all operations and research facilities.
APG EFF: AS-11-8	Peer-review and competitively award at least 95 percent, by budget, of research projects.

FY 2011 Performance Plan

Uniform and Efficiency Measures

Measure #	Description
APG EFF: AS-11-9	Reduce time within which 80 percent of NASA Research Announcement (NRA) grants are awarded, from proposal due date to selection, by four percent per year, with a goal of 180 days.
Heliophysics Theme	
APG EFF: HE-11-6	Complete all development projects within 110 percent of the cost and schedule baseline.
APG EFF: HE-11-7	Deliver at least 90 percent of scheduled operating hours for all operations and research facilities.
APG EFF: HE-11-8	Peer-review and competitively award at least 90 percent, by budget, of research projects.
APG EFF: HE-11-9	Reduce time within which 80 percent of NASA Research Announcement (NRA) grants are awarded, from proposal due date to selection, by four percent per year, with a goal of 180 days.
Planetary Science Theme	
APG EFF: PS-11-14	Complete all development projects within 110 percent of the cost and schedule baseline.
APG EFF: PS-11-15	Deliver at least 90 percent of scheduled operating hours for all operations and research facilities.
APG EFF: PS-11-16	Peer-review and competitively award at least 95 percent, by budget, of research projects.
APG EFF: PS-11-17	Reduce time within which 80 percent of NASA Research Announcement (NRA) grants are awarded, from proposal due date to selection, by four percent per year, with a goal of 180 days.